

# FACTSHEET

## *Plant Protection & Quarantine*

United States  
Department of  
Agriculture

Animal and  
Plant Health  
Inspection  
Service

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## Pine Shoot Beetle

The pine shoot beetle (*Tomicus piniperda*), a serious foreign pest of pines, was discovered at a Christmas-tree farm near Cleveland, OH, in July 1992. A native of Europe, the beetle attacks new shoots of pine trees, stunting the growth of the tree.

The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) has taken steps to prevent this insect from moving to major pine-tree production areas. APHIS, in cooperation with State officials, has quarantined 43 infested counties in Michigan, Indiana, Ohio, New York, Illinois, and Pennsylvania.

Most of the beetle finds have been at Christmas-tree farms and pine-tree nurseries. The beetle prefers Scotch pine but will feed on most, if not all, species of pine.

Although the beetle is slow moving, it could spread to other areas through the movement of Christmas trees, nursery stock, and pine logs.

### Appearance and Life Stages

Adult pine shoot beetles are 3 to 5 mm long, or about the size of a matchhead. They are brown or black and cylindrical. The legless larvae are about 5 mm long with a white body and brown head.

Pine shoot beetles complete only one life cycle per year. They spend the winter months inside the thick bark at the base of living pine trees.

The beetles become active and leave their overwintering sites in March and April (when temperatures reach 54 °F) to mate and lay eggs in dead trees, dying trees, and recently cut stumps. Adults can fly several kilometers during this period in search of a suitable host. Females lay eggs in gallery systems they bore between the inner bark and outer sapwood of the tree. Egg galleries are 10 to 25 cm long.

From April to June, larvae feed under the bark of fallen pine trees and logs in separate feeding galleries 4 to 9 cm long.

Mature larvae stop feeding, pupate, and emerge as adults. From July through October, adults tunnel out through the bark and fly to new pine shoots to

feed. The beetles bore into the center of the shoot during maturation feeding, hollowing 2.5 to 10 cm of wood. Affected shoots droop, turn yellow, and fall off during the summer and fall. Feeding adults attack living pine trees of all sizes. This is the most destructive stage of the life cycle. When shoot feeding is severe, tree height and diameter growth are reduced.

### History

The pine shoot beetle is reported to be the second most destructive shoot-feeding species in Europe. It is also established in Asia.

The only previous U.S. infestation of the beetle occurred in New Jersey in 1913. The pest did not become established at that time.

APHIS has made nearly 100 interceptions of the pest in wood dunnage since 1985 at U.S. ports of entry. Wood dunnage is used on ships to stabilize cargo.

The current infestation may have come from wood dunnage left on the shore at one or more U.S. ports on the Great Lakes.

### APHIS Involvement

In cooperation with State officials, APHIS is requiring the inspection of cut Christmas trees, pine nursery stock, and pine logs, stumps, and lumber with bark attached before these regulated articles can move out of quarantined areas.

Lumber and logs without bark attached are not regulated.

Additionally, APHIS and cooperating officials are conducting wide-ranging detection surveys for the pest. State and Federal scientists are working with the affected industries to develop appropriate control strategies.

APHIS is also developing traps and attractants that will be used to augment visual survey. The traps will be used in the late winter and early spring to attract and capture adult beetles that are flying from their overwintering sites to mating and egg-laying sites.

For more information about the pine shoot beetle,  
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